RS-8601-05 OH-0101-12 Page 1 of 4

Allied Chemical
An ALLIED Company

PRODUCT SAFETY DATA SHEET

CALCINED CLAY

A. GENERAL INFORMATION

TRADE NAME (COMMON NAME OR SYNONYM)	☐ C.A.S. NO. ☐ ALLIED PRODUCT CODE #
CALCINED FLINT CLAY	

CHEMICAL NAME

A Dehydrated Aluminum Silicate Clay of the Kaolin Family.

FORMULA	MOLECULAR WEIGHT
Unknown. Chemistry usually discussed in terms of Alumina (Al_2O_3) content and Silica (Si_2O_3) content.	Unknown

ADDRESS (No., STREET, CITY, STATE AND ZIP CODE)

ALLIED CHEMICAL
P.O. Box 1139R
Morristown, N.J. 07960

CONTACT	PHONE NUMBER	ISSUED DATE	REVISED DATE
Director, Product Safety	(201) 455-4157	May, 1982	

B. FIRST AID MEASURES

EMERGENCY PHONE NUMBER
(201) 455-2000

Eyes: Flush promptly and thoroughly with water. If symptoms persist, get medical attention.
Inhalation: Remove to fresh air.
Ingestion: Get medical attention.

C. HAZARDS INFORMATION

HEALTH

INHALATION

Inhalation of dust may cause discomfort. See Unusual Chronic Toxicity, below.

INGESTION

May cause discomfort. No toxic effects or symptoms are known. The main component, aluminum silicate, is rated essentially harmless. Reference (a).

SKIN

No reports of irritation or other harmful effects.

EYES

No reaction with tissue. Irritating as a foreign object if exposure is appreciable.

PERMISSIBLE CONCENTRATION: AIR (SEE SECTION J) BIOLOGICAL

See Section K.

UNUSUAL CHRONIC TOXICITY

Long term inhalation of high concentrations of crystalline silica dust can cause silicosis, a condition of massive fibrosis of the lungs, marked by shortness of breath and reduced respiratory function.

C. HAZARDS (Cont.)

FIRE AND EXPLOSION

FLASH POINT °C	AUTO IGNITION TEMPERATURE °C	FLAMMABLE LIMITS IN AIR (% BY VOL.)
Not flammable ☐ OPEN CUP ☐ CLOSED CUP	Not applicable	Not applicable

UNUSUAL FIRE AND EXPLOSION HAZARDS

None

D. PRECAUTIONS/PROCEDURES

FIRE EXTINGUISHING AGENTS RECOMMENDED

Not applicable

FIRE EXTINGUISHING AGENTS TO AVOID

SPECIAL FIRE FIGHTING PRECAUTIONS

Not applicable

VENTILATION

Provide local or general (mechanical) exhaust as required to keep exposures to dust below permissible concentration level. In the absence of dust, natural ventilation is adequate.

NORMAL HANDLING

Handling practices should be designed and performed to keep dusting to a minimum. Avoid breathing dust. Use only with adequate ventilation. Avoid contact with eyes.

STORAGE

No special precautions are required.

SPILL OR LEAK

Shovel up with a minimum of dusting, and place in container, e.g. fiberboard.

SPECIAL: PRECAUTIONS/PROCEDURES/LABEL INSTRUCTIONS

No special precautions are required.

E. PERSONAL PROTECTIVE EQUIPMENT

RESPIRATORY PROTECTION

Not required for normally-vented situations. For emergencies or poorly ventilated spaces, use an appropriate respirator approved by NIOSH for silica-containing dusts. Respirator should be clean, in good condition, and properly used.

EYES AND FACE

If dusty condition prevails, use safety goggles. Under this condition, do not wear contact lenses. In the absence of dust, safety glasses are adequate.

HANDS, ARMS, AND BODY

Work gloves.

OTHER CLOTHING AND EQUIPMENT

Not generally required.

F. PHYSICAL DATA

Clay pg 3 of 4

MATERIAL IS (AT NORMAL CONDITIONS):	APPEARANCE AND ODOR	
☐ LIQUID ☒ SOLID ☐ GAS ☐ _____	Gray to reddish-brown powder; odorless.	
BOILING POINT Not applicable °C MELTING POINT °C	SPECIFIC GRAVITY (H_2O = 1) Estimated: 3.247 Bulk density: 81 # / cu.ft.	VAPOR DENSITY (AIR = 1) Not applicable
SOLUBILITY IN WATER (% by Weight) Negligible	pH	VAPOR PRESSURE (mm Hg at 20° C) ☐ (PSIG) ☐ Not applicable
EVAPORATION RATE (Butyl Acetate = 1) ☐ (Ether = 1) ☐ Not applicable	% VOLATILES BY VOLUME (At 20° C) Not applicable	

G. REACTIVITY DATA

STABILITY	CONDITIONS TO AVOID
☐ UNSTABLE ☒ STABLE	
INCOMPATIBILITY (MATERIALS TO AVOID) Not applicable	
HAZARDOUS DECOMPOSITION PRODUCTS Not applicable	
HAZARDOUS POLYMERIZATION ☐ MAY OCCUR ☒ WILL NOT OCCUR	CONDITIONS TO AVOID

H. HAZARDOUS INGREDIENTS (Mixtures Only)

MATERIAL OR COMPONENT/C.A.S. #	WT. %	HAZARD DATA (SEE SECT. J)
Not applicable		

I. ENVIRONMENTAL

DEGRADABILITY/AQUATIC TOXICITY	OCTANOL/WATER PARTITION COEFFICIENT

EPA HAZARDOUS SUBSTANCE? ☐ YES ☒ NO IF SO, REPORTABLE QUANTITY: _____ # — 40 CFR 116-117

WASTE DISPOSAL METHODS (DISPOSER MUST COMPLY WITH FEDERAL, STATE AND LOCAL DISPOSAL OR DISCHARGE LAWS)

Dispose of in landfill or by other approved method.

RCRA STATUS OF UNUSED MATERIAL: Not a "hazardous waste". — 40 CFR 261

J. REFERENCES

PERMISSIBLE CONCENTRATION REFERENCES

(1) OSHA Standard, 29 CFR 1910.000, Table Z-3, reprinted June 19, 1981.
(2) "Threshold Limit Values for Chemical Substances. . .", ACGIH (1981).

REGULATORY STANDARDS — D.O.T. CLASSIFICATION: Not regulated. — 49 CFR

GENERAL

(a) Gosselin, R.E. et al, Clinical Toxicology of Commercial Products, 4th Edition, 1976, Williams & Wilkins, Baltimore, entry: aluminum silicate.

K. ADDITIONAL INFORMATION

Section C. Permissible Concentration

Permissible concentration(s) shall be determined using one of the following formulas. The percentage of SiO_2 in the formulas is the amount determined from airborne sampling.

	Total Crystalline SiO_2	Respirable Crystalline SiO_2
OSHA:	$\frac{30}{\%\ SiO_2 + 2}$ mg/cu.m.	$\frac{10}{\%\ SiO_2 + 2}$ mg/cu.m.
ACGIH:	$\frac{30}{\%\ SiO_2 + 3}$ mg/cu.m.	same as above

*Use percentage of respirable SiO_2 as defined in the references noted above.

ALLIED CORP.
CHEMICAL SECTOR

Alum Process Residue

IN-PLANT
MATERIAL SAFETY
DATA SHEET
FOR PLANT USE ONLY

A. GENERAL INFORMATION

PLANT IDENTIFICATION OF PRODUCT	☐ C.A.S. NO. ☐ PLANT CODE NO.
Alum Process Residue	

CHEMICAL NAME
Clay and Bauxite, Residues

FORMULA	MOLECULAR WEIGHT
Unknown - chemistry usually discussed in terms of clays, alumina, Titanium, Dioxide, Bauxite, and non-crystalline Silica.	

ADDRESS (No., STREET, CITY, STATE AND ZIP CODE)
ALLIED CHEMICAL
AN ALLIED COMPANY
P.O. BOX 1139R
MORRISTOWN, NJ 07960

CONTACT	PHONE NUMBER	ISSUED DATE	REVISED DATE
Director, Product Safety	(201) 455-4157		October 1985

B. FIRST AID MEASURES

EMERGENCY PHONE NUMBER
(201) 455-2000

Eye Contact: Flush eyes with copious amounts of water to eliminate mechanical irritation.

C. HAZARDS INFORMATION

HEALTH

INHALATION
Nuisance Dust - No particular hazard due to toxicity.

INGESTION

SKIN
No reports of irritation due to skin contact.

EYES
May cause mechanical irritation due to inert dusts.

PERMISSIBLE CONCENTRATION: AIR (SEE SECTION J) — BIOLOGICAL
10 mg/m^3 as a nuisance dust.

UNUSUAL CHRONIC TOXICITY
None

C. HAZARDS (Cont.)

FIRE AND EXPLOSION

FLASH POINT °C	AUTO IGNITION TEMPERATURE °C	FLAMMABLE LIMITS IN AIR (% BY VOL.)
Non-Flammable ☐ OPEN CUP ☐ CLOSED CUP	N/A	LOWER - — UPPER - —

UNUSUAL FIRE AND EXPLOSION HAZARDS

NONE

D. PRECAUTIONS/PROCEDURES

FIRE EXTINGUISHING AGENTS RECOMMENDED

Non-Flammable

FIRE EXTINGUISHING AGENTS TO AVOID

NONE

SPECIAL FIRE FIGHTING PRECAUTIONS

NONE

VENTILATION

Use adequate ventillation to avoid nuisance dusts.

NORMAL HANDLING

Avoid dust generation.

STORAGE

—

SPILL OR LEAK

SPECIAL: PRECAUTIONS/PROCEDURES/LABEL INSTRUCTIONS

NONE

E. PERSONAL PROTECTIVE EQUIPMENT

RESPIRATORY PROTECTION

NIOSH approved dust respirator

EYES AND FACE

Wear eye protection to avoid dust in eyes.

HANDS, ARMS, AND BODY

NONE

OTHER CLOTHING AND EQUIPMENT

Not Required

F. PHYSICAL DATA

MATERIAL IS (AT NORMAL CONDITIONS):	APPEARANCE AND ODOR	
☐ LIQUID ☒ SOLID ☐ GAS ☐ _____	Grey to redish-brown, powder or damp sandy powder.	
BOILING POINT °C MELTING POINT NA °C	SPECIFIC GRAVITY (H_2O = 1) 3.3	VAPOR DENSITY (AIR = 1) NA
SOLUBILITY IN WATER (% by Weight) < 1	pH NA	VAPOR PRESSURE (mm Hg at 20° C) ☐ (PSIG) ☐ NA
EVAPORATION RATE (Butyl Acetate = 1) ☐ (Ether = 1) ☐ NA	% VOLATILES BY VOLUME (At 20° C) NA	

G. REACTIVITY DATA

STABILITY	CONDITIONS TO AVOID
☐ UNSTABLE ☒ STABLE	NONE
INCOMPATIBILITY (MATERIALS TO AVOID) NONE	
HAZARDOUS DECOMPOSITION PRODUCTS NONE	
HAZARDOUS POLYMERIZATION ☐ MAY OCCUR ☒ WILL NOT OCCUR	CONDITIONS TO AVOID

H. HAZARDOUS INGREDIENTS (Mixtures Only)

MATERIAL OR COMPONENT/C.A.S. #	WT. %	HAZARD DATA (SEE SECT. J)

I. ENVIRONMENTAL

DEGRADABILITY/AQUATIC TOXICITY	OCTANOL/WATER PARTITION COEFFICIENT

EPA HAZARDOUS SUBSTANCE? ☐ YES ☒ NO IF SO, REPORTABLE QUANTITY: ——— #

40 CFR 116-117

WASTE DISPOSAL METHODS (DISPOSER MUST COMPLY WITH FEDERAL, STATE AND LOCAL DISPOSAL OR DISCHARGE LAWS)

Material is non-hazardous. Can be swept up and shoveled into a container for disposal in a sanitary landfill.

RCRA STATUS OF UNUSED MATERIAL:

40 CFR 261

J. REFERENCES

PERMISSIBLE CONCENTRATION REFERENCES

ACGIH — Nuisance dust

REGULATORY STANDARDS	D.O.T. CLASSIFICATION:	49 CFR

GENERAL

K. ADDITIONAL INFORMATION

THIS MATERIAL SAFETY DATA SHEET IS FOR IN-PLANT USE ONLY.
IT IS NOT TO BE DISTRIBUTED OUTSIDE ALLIED CORP.

ALLIED CHEMICAL COMPANY
SYRACUSE RESEARCH LABORATORY

MEMORANDUM

ALLIED – CONFIDENTIAL

DATE: June 9, 1983

SUBJECT: IDENTIFICATION OF MATERIAL UNDER PARKING LOT AT NATIONAL WORKS

TO: Robert P. Swanson
National Works

Copies to: S. L. Bean, SRL
J. W. Swaine, Jr., SRL
B. W. Carr, DVW
P. Rinear, Allied Chemical, Route 13, Marcus Hook, PA 19061
Paul Bowens, Menasha, WI

A sample of material buried under the parking lot near the front office at National Works - Cleveland, Ohio has been identified at Syracuse Research Laboratory.

The compounds identified by X-ray diffraction are:

(1) gypsum - $CaSO_4.2H_2O$
(2) anhydrite - $CaSO_4$
(3) alpha quartz - SiO_2 (<1%)

In addition, the elemental composition was determined by X-ray fluorescence and the material was found to be primarily $CaSO_4$, which confirms the above results. Elements found:

Major	Minor-Trace
Ca	Si
S	Fe
	Pb
	Br
	Sr

George L. Miller
George L. Miller
Research Chemist
Syracuse Research Laboratory

GLM:ecb

EXHIBIT A

CHARACTERIZATION OF ALUM MUDS

The following characterization of alum muds is intended by the parties to this Agreement to be generally descriptive of alum muds although the parties agree that the actual alum muds placed in the alum cell may deviate somewhat from this typical characterization and that the characterization is or may not be complete for every purpose.

TYPICAL RESIDUE COMPOSITION
(% Weight Dry Basis)

SiO_2	77
Al_2O_3	13
TiO_2	3
Fe_2O_3	<1
Other	6
	100%
Typical % solids	45

Physical Consistency: Thixotropic Mud

Typical RCRA - Extraction Procedure Alalysis
(mg/l.)

Arsenic	< 0.002
Barium	< 0.2
Cadmium	< 0.002
Chromium	< 0.05
Lead	< 0.05
Mercury	< 0.0003
Selenium	< 0.003
Silver	< 0.005
pH	3.5

Endrin, Lindane, Methoxychlor, Toxaphene, 2, 4-D, and 2, 4, 5-TP (Silvex) are not present in process.